

REMARKS

Reconsideration of this Application is respectfully requested.

Claims 1-72 are pending in the application, with claims 1, 35-37, and 72 being the independent claims.

Based on the above amendments and following remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Objections to the Claims

In the Action on page 3, section 4, claim 14 is objected to due to an informality. Applicants have amended claim 14 to correct the informality, and Applicants respectfully request that the objection be withdrawn.

Rejections under 35 U.S.C. § 102

In the Action on pages 6-16, sections 12-13, claims 1-8, 12, 15-44, 48, and 51-72 are rejected as being anticipated by U.S. Patent No. 6,560,569 to Abu El Ata (hereinafter “‘569”). Applicants respectfully traverse the rejection.

‘569 is directed generally to a system for designing and modeling new information systems and not to a decision support system for evaluating supportability of alternative system architecture designs.

Claim 1 recites a decision support system for evaluating supportability of alternative system architecture designs comprising: ***an analytic hierarchy process (AHP) model comprising a plurality of supportability attributes at a first level***, wherein said plurality of supportability attributes comprises: a ***commonality attribute***; a ***modularity attribute***; a ***standards based attribute***; and a ***reliability, maintainability, testability (RMT) attribute***; an analysis module, adapted to assign relative weights to each supportability attribute on said first level and to perform pair-wise comparisons of said plurality of attributes on said first level; an evaluation module, adapted to assign a global priority weight (GPW) to each of a plurality of alternative system architecture

designs and to compare the values of said GPWs of said plurality of alternative system architecture designs; and a user interface, adapted to display said GPWs to a user and to receive a selection of a preferred system architecture design based on said comparison.

‘569 fails to teach at least five elements of claim 1.

First, ‘569 fails to teach *an analytic hierarchy process (AHP) model comprising a plurality of supportability attributes* at a first level. AHP is a known decision making technique that enables the comparison of tangible criteria along with intangible criteria through normalisation and the use of unit-less ratios. In addition, AHP forces a problem to be broken into its constituent parts, which allows the problem to be solved by applying simple pair-wise comparison judgments. AHP typically consists of three phases: (a) synthesis of the relevant parameter hierarchy, (b) its analysis, and (c) evaluation. In designing the hierarchy, level I (i.e., top level; also called the *Focus*) of the hierarchy represents the overall objective of the decision, followed by subsequent levels consisting of attributes and sub-attributes (see FIG. 4). The attributes of each level must be of same magnitude since they are compared with one another at the next higher level. See specification, paragraphs 176-178, FIG. 4. In an AHP model, each level in the hierarchy contains sub-attributes of the next higher level, and each sub-attribute on a particular level is scored. The scores of a level may be weighted to contribute to the score of the next higher level. The AHP model of claim 1 provides a hierarchy of supportability attributes at a first level that allows comparison of the supportability attributes at each level of the hierarchy. Specification, paragraph 176.

‘569 has no teaching or discussion of an AHP. Instead, ‘569 teaches an information system modeled in a top/down approach, having a top level of a business management and process domain; middle levels of application design, management, and implementation domains; and system/network/hardware management domains at bottom levels. ‘569, col. 8, lines 56-63. The information design system of ‘569 mathematically models business management and process at one level; application design, management and implementation below the business level; and system/network/hardware management at a bottom level. Descriptive input information from the business domain is pulled down to the application domain and then down to the system domain. ‘569, col. 8, lines 63-66. An AHP percolates scores up to the highest “focus” level. Therefore, ‘569 fails to teach an AHP model.

Further, none of the levels in '569 is related to the consideration of supportability of a system architecture design. Instead, the model information systems of '569 are assessed from performance metrics, not from supportability attributes. '569, e.g., col. 1, lines 58-63. The performance metrics of '569 include an elongation factor, an aging ratio, an efficiency ratio, and a degradation ratio. '569, col. 2, lines 39-41. Therefore, '569 fails to teach an AHP model comprising a plurality of supportability attributes.

Second, '569 fails to teach a *commonality attribute*. The Action aligns the application architecture layer of '569 with the commonality attribute of claim 1. This alignment is incorrect. The architecture layer, and the construction module 18 may indeed specify a "certain type of CPU and use a specific database application to access account data on a specific type of disk drive." '569 col. 7, lines 1-3. The decisions behind the selection of the "certain" hardware and software components, however, are based on time estimates, **not** on commonality attributes. '569, col. 7, lines 3-8. In contrast, the commonality attribute of claim 1 may be used, for example, to assess the extent to which a system architecture design uses "common (and familiar) physical, functional, and operational elements within the system being designed and evaluated. As such, the focus of the commonality attribute is to reduce the total number of unique system elements to the extent possible." See specification, paragraph [0074]. Therefore, '569 has no teaching or suggestion of a commonality attribute.

Third, '569 fails to teach a *modularity attribute*. The Action aligns the application architecture layer of '569 and a library of pre-modeled components 54, 58 with the modularity attribute of claim 1. This alignment is incorrect. The library of pre-modeled components are "either mathematical models of a complex technology (relational databases or complex controllers) or results of previously determined benchmarks characterized by a high level of reproducibility." '569, col. 13, lines 51-55. The pre-modeled components allow the information design system to model an information system prior to its design. '569, col. 13, lines 45-47. The pre-modeled components have nothing to do with the modularity of components actually used in a system architecture. In contrast, the modularity attribute of claim 1 may allow assessment of alternative system architectures based on the extent to which components of the architecture may be replaced

or upgraded with minimal impact to other components. See, e.g., specification, paragraphs 140 or 146. Therefore, '569 has no teaching or suggestion of a modularity attribute.

Fourth, '569 fails to teach a ***standards based attribute***. The Action aligns the operating environment layer of '569 and pre-modeled components 54, 58 with the standards based attribute of claim 1. This alignment is incorrect. Again, the pre-modeled components allow the information design system in '569 to model an information system prior to its design. '569, col. 13, lines 45-47. There is no discussion of the pre-modeled components having attributes that are standards based. In contrast, the standards based attribute of claim 1 may allow assessment of alternative system architectures based on an architecture's compliance with industry standards and/or internal company standards and guidelines. See specification, paragraph [0099]. Therefore, '569 has no teaching or suggestion of a standards based attribute.

Fifth, '569 fails to teach a ***RMT attribute***. The Action aligns the application implementation layer of '569 and an aging ratio with the RMT attribute of claim 1. This alignment is incorrect. The aging ratio of '569 is a ratio reflecting an expected decrease in efficiency over time, i.e. a decrease in processing speed of transactions over time. '569, col. 15, lines 46-59. Reasons for such a decrease in processing efficiency include application maintenance, functional changes in the application environment, and added functionality without the corresponding upgrades to the original system architecture. '569, col. 15 line 66 - col. 16, line 11. The aging ratio addresses efficiency, not reliability, maintainability or testability. In contrast, the RMT attribute of claim 1 may include considerations such as the ability of the system to operate correctly for a length of time, under specified operational conditions, without failure, and a system's redundancy and reconfigurability. Specification, paragraph 118. The RMT attribute may further include considerations such as the ease and cost with which a failed system or system functionality can be restored. Specification, paragraph 124. Therefore, '569 has no teaching or suggestion of a RMT attribute.

Claims 2-8,12,15-34 depend from claim 1, and are allowable at least for being dependent from an allowable claim.

Claims 35-37, and 72 recite similar elements to those discussed above regarding claim 1, and are allowable for at least the same reasons given above with respect to claim 1.

Claims 44 and 48 depend from claim 37, and are allowable at least for being dependent from an allowable claim.

Rejections under 35 U.S.C. § 103

In the Action on pages 14-15, section 7, claims 9-11, 13, 14, 45-47, and 50 are rejected as being unpatentable over '569 in view of U.S. Patent No. 5,815,715 to Küçükçakar (hereinafter "'715"). Applicants respectfully traverse the rejection.

Claims 9-11, 13, and 14 depend from claim 1, which is allowable as discussed above. Claims 45-47 and 50 are dependent from claim 37, which is allowable as discussed above. Claims 9-11, 13, 14, 45-47, and 50 are therefore allowable at least for being dependent from an allowable claim.

Further, the combination of '715 with '569 fails to overcome the deficiencies of '569 with respect to claims 1 and 37. '715, alone or in combination with '569, fails to teach or suggest an analytic hierarchy process (AHP) model comprising a plurality of supportability attributes at a first level, wherein said plurality of supportability attributes comprises: a commonality attribute; a modularity attribute; a standards based attribute; and a reliability, maintainability, testability (RMT) attribute. '715 appears to teach, generally, a computer system for designing a computing system product. '715, Abstract. A design is evaluated according to acceptance criteria, such as cost and performance. '715, col. 2, lines 43-58. There is no discussion in '715 of an AHP model or of supportability attributes, such as the attributes recited in claim 1. Therefore, the combination of '715 with '569 fails to teach or suggest an analytic hierarchy process (AHP) model comprising a plurality of supportability attributes at a first level, wherein said plurality of supportability attributes comprises: a commonality attribute; a modularity attribute; a standards based attribute; and a reliability, maintainability, testability (RMT) attribute.

Therefore, claims 1 and 37, as well as the dependent claims depending therefrom, are believed allowable over the applied references.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

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Respectfully submitted,

By 

Caroline J. Swindell

Registration No.: 56,784

Ralph P. Albrecht

Registration No.: 43,466

VENABLE LLP

P.O. Box 34385

Washington, DC 20043-9998

(202) 344-4000

(202) 344-8300 (Fax)

Attorney/Agent For Applicant